

Patent Claims

1. A controllable current source circuit having two driver stages (17, 18), which are connected in series between voltage supply connections (12, 13) and whose mutual junction point is connected to the output (8) of the current source circuit, characterized in that only one of the driver stages (17) is switched on and off as a function of an input signal, and the other driver stage (18) is switched on and carries a stabilized current.

2. The current source circuit as claimed in claim 1, characterized in that the switched drive stage (17) is part of a current mirror circuit, into which a stabilized current flows when this driver stage (17) is switched on.

3. The current source circuit as claimed in claim 1 or 2, characterized in that the continuously switched-on driver stage (18) is part of a current mirror circuit (19) which causes a constant stabilized current to flow in this driver stage (18).

4. The current source circuit as claimed in claim 3, characterized in that the current mirror circuit (19) is coupled to the current mirror circuit which is connected to the switched driver stage (17) and causes a stabilized current to flow in it.

5. The current source circuit as claimed in claim 3 or 4, characterized in that the current carried by the switched driver stage (17) when it is switched on is greater than the current carried by the continuously switched-on driver stage (18).

6. The current source circuit as claimed in claim 5,
characterized in that the current carried in the switched
driver stage (17) is a plurality of times as great, in
particular four times as great, as the current carried by the
continuously switched-on driver stage (18).

7. A phase locked loop having a phase comparator (1), which
comprises a phase comparison circuit (6), to which a reference
signal (3) and an input signal (5) whose phase angle is to be
regulated are applied, and a current source circuit (7) on the
output side, to the latter of which a loop filter (9) is
connected, whose output signal controls the phase angle of the
input signal (5), characterized in that the current source
circuit (7) is designed in accordance with one of the
preceding claims.

8. The phase locked loop as claimed in claim 7, characterized
in that the phase comparison circuit (6) contains a comparator
which switches between two output states and has only a single
output connection (15), to which the current source circuit
(7) is connected.

9. The phase locked loop as claimed in claim 7 or 8,
characterized in that the phase comparison circuit (6)
contains an exclusive-OR gate.

10. The phase locked loop as claimed in claim 7, 8 or 9,
characterized in that, by means of a current mirror circuit
(19) which is connected to the phase comparison circuit (6), a
stabilized current flows into the latter and into the
continuously operated driver stage.